

## Abstract of the Disclosure

The present invention provides a method for the extraction of a proteinase inhibitor from plant tissue. The extraction of the proteinase inhibitor begins with the addition of an alcohol-free, aqueous solution of an organic acid and a salt to plant tissue. The extraction solution and plant tissue are comminuted to reduce the average particle size of the plant tissue to improve extraction efficiencies. A weight ratio of between about 1:1 and about 1:10 extraction solution to plant tissue is used. In extracting proteinase inhibitor II from potato tubers, the extraction solution utilizes formic acid and sodium chloride, and the average particle size is reduced to between about 100 and 1500 microns. The process has been demonstrated to be cost-effective and provide high yields of the target proteinase inhibitor on commercial scales.